Two Interesting Mexicans: *Pinguicula acuminata* and *Pinguicula macrophylla*.

Loyd Wix
93 Hayway, Rushden.
Northants.NN10 6AQ, UK
E-mail Loyd.Wix@Unilever.com

Introduction:

In recent years there has been a growing interest in the cultivation and study of the genus *Pinguicula* culminating in the formation of the International *Pinguicula* Study Group. Although these plants are not the most gruesome of carnivorous plants, the flowers of this genus are surely among the most beautiful. To fuel the increasing interest in this genus, there have been many new species introduced into cultivation in recent years. Among these have been two plants, *P. acuminata* and *P.macrophylla* - which although not closely related - are remarkably similar to one another when not in flower. In some circles these are considered to be difficult plants to cultivate - if not nearly impossible. This reputation (which I consider to be unfounded) may be offputting to some growers which is a shame as both of these species are very attractive and interesting plants. Although it is true that the cultivation of these plants requires some care (particularly during the winter months), the attention that the plants require is offset by the rewards of the beautiful flowers and striking foliage of these two species. The purpose of this article is to describe these two stunning *Pinguiculas* and to comment on my experiences of cultivating these species over the past few years. Hopefully, this article will provide encouragement for other growers to try these plants.

Figure 1. *Pinguicula acuminata*. Note white flower, acute spur angle, and that the flower appears to arise directly from the soil due to the buried winter leaves. Photo by Loyd Wix.

Figure 2. *Pinguicula macrophylla*. Photo by Loyd Wix.

Taxonomy:

As I will discuss in due course, these two plants are very similar to one another when not in flower and could easily be confused. Despite these similarities the two plants are not closely related. The Genus *Pinguicula* is separated into 3 subgenus, *Isoloba*, *Temnoceras* and *Pinguicula* - these subgenera are further divided into 14 sections and 14 sub sections. The two species of interest in this article are positioned as follows:

Species	Subsection	Section	Subgenus
P.acuminata	*Isolobopsis*	*Heterophyllum*	*Isoloba*
P.macrophylla	*Caudatopsis*	*Orcheosanthus*	*Pinguicula*

This positioning puts *P.acuminata* alongside the spidery *P.heterophylla*, and the semi-succulent *P.rotundiflora* and *P.reticulata*, and *P.macrophylla* alongside *P.oblongiloba* (and other members of the *Orcheosanthus* familiar to many of us, *P.moranensis* and *P.zecheri*).

Descriptions:

Foliage:

P.acuminata and *P.macrophylla* both have similar patterns of growth and similar foliage. Both plants display quite different winter and summer foliage with distinct differences between the first leaves formed in spring/early summer, and those formed during the height of summer. The summer leaves are best described as heart or spade shaped with long petioles for the most part buried below ground together with the growth point. The first leaves of the year are relatively small showing the greatest amount of petiole above the surface of the compost. The leaves in late summer are 3 to 4 times larger and often conspicuously veined. Towards the end of the season when the production of summer leaves has stopped, the development of the winter rosette is indicated by the presence of a void in the centre of the summer rosette. This is similar to the signs indicating the formation of winter resting buds in European *Pinguicula* such as *P. grandiflora* and *P. leptoceras*. At this time careful inspection will reveal the presence of the developing winter rosette. Both species produce buried almost bulb like winter rosettes which I find reminiscent of the hibernacular formed by the European species. In my experience the winter rosettes of *P. macrophylla* are buried deeper the those of *P. acuminata* and resume summer growth later. The winter rosettes are composed of many small, pointed succulent leaves and the rosettes can be as much as 2cm in diameter.

Flowers:

Both species are easily distinguishable from one another in terms of the shape and colour of the flower and the time of flowering.

P. acuminata - this plant only flowers from the winter rosette in late winter and early spring and never from the summer rosette. So this is another of the very welcome winter flowering species that help to brighten up other wise dull and short days. For me the most fascinating aspect of this plant is how the first flowers emerge from the winter rosette before the summer leaves start to be formed. Bearing in mind how the winter rosette is buried, then the first flowers are produced with no other physical signs of a plant being present in the pot. The flowers are a pale lilac colour with a very

distinctive spur which is short, green in colour and bent 90 degrees to the corolla tube. When the flowers first open, they are a very pale colour (often almost white) with the lilac colouring developing as the flower ages. Large plants can bare up to 6 flowers in one season. The last flowers of the season are produced as the new spring foliage starts to emerge. The scape is quite smooth and carries relatively few glands (although many are present on the flower) and these are confined to the upper most portions. Some plants bear flower stalks that are coloured brightly red, which I find reminiscent of the coloured inflorescence of *Heliamphora nutans*. In other plants the flower stalk is a paler apple green colour.

P.macrophylla - this plant never flowers from the winter rosette, and only flowers in mid summer. Fewer flowers are produced in a season by comparison with *P.acuminata*. The colour of the flowers is a dark violet/purple with a white splash on the lower petal - not untypical of other plants in Section *Orcheosanthus*. What is distinctive is the pronounced rounding of the petals - which in other *Orcheosanthus* plants tend to be angular such as in the various *P.moranensis* forms. By comparison with *P.acuminata* the spur is long and straight.

Cultivation:

The current wisdom on the cultivation of Mexican Pinguiculas advises the use of an open free draining compost composed principally of perlite, vermiculite and sand with comparatively low levels of organic material such as moss peat. Such open and aerated composts lead to the formation of a strong and healthy root system, by comparison heavy composts rich in peat lead to restricted root systems and stunted plants. Thus it will not be surprising that I grow both of these plants in a compost rich in perlite and vermiculite.

One aspect of *Pinguicula* cultivation that has bothered me for a while has been the selection of suitably sized pots. The main difficulty has been accommodating the summer rosettes which have a habit of growing over the sides of the pots. Pots with a large enough diameter for the rosettes are usually so tall as to produce an unbalanced effect when planted with such low growing species. As a result, most of my plants are now planted out in terracotta bowls, with several plants in each bowl (such bowls are sold in the UK for planting bulbs such as Hyacinths). Individual plants are placed in attractive clay half pots which have a wide enough diameter to accommodate the largest summer rosettes, whilst the depths of these half pots produces a balanced effect. I also use a top dressing of fine pea gravel which hides the artificial looking perlite and keeps moss growth under control as well as looking attractive.

When the plants are in full growth during the summer, they enjoy regular and frequent watering. Once the winter rosette is formed it is vital that the pots are kept drier. If over watered at this time of year there is a real risk of the plants rotting. I used to keep all such plants totally dry over the winter months, though beware as I lost some plants potted up in clay pots last year which I believe was due to the plants becoming totally desiccated. (Clay pots allow the compost to dry out much faster than plastic ones). Just because the plants are in a winter rosette does not mean that the plants are fully dormant and thus although greatly reduced, there is still some requirement for moisture. This is where the greater care is involved in cultivating these plants. On the one hand it is important to avoid growing these plants wet during the winter, but also equally important that desiccation of the plants does not occur due to neglect (It is easy to just glance by pots of these plants with out another thought as the plants are hidden below ground). In late autumn/ early winter it is advisable to remove all dead leaves as these can become a source of infection.

Propagation:

Both plants can be propagated by either leaf cutting or seed. To produce leaf cuttings, leaves are taken from the winter rosette so it is necessary to partially excavate this sufficiently to enable winter leaves to be removed without unnecessary damage occurring to the parent plant or root system. Leaf cuttings should be placed on to a similar open compost as the parent plants are grown in. Leaf cuttings will form reasonable sized plants after one season.

Seed of both species can be generated, though some intervention with a fine water colour brush (or other similar implement) is necessary. Seed should be sown on a very open compost - not only for root development, though because these open sandy materials do not harbour Sciarid (mushroom) fly larvae that can decimate the seedlings. Seed is a slower method over cuttings to achieve adult plants.

Conclusions:

Both of these plants are worthwhile additions to any collection whether for the flowers or the foliage of the summer rosettes. The chief attraction of these two plants is how different they are in comparison to the species of *Pinguicula* more commonly grown. Whilst the cultivation of these plants requires a little more care than other plants in the genus, the beauty of these species makes this extra care justified. These plants are in addition worthy candidates for hybridisation in order to produce outstanding new hybrids in terms of leaf shape as well as flower.